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The Agricultural Situation and Crop Prospects

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in Communist China, 1963

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The Agricultural Situation and Crop Prospects
in Communist China, 1963

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SUMMARY

Prospects for the 1963 harvest in Mainland China are little if any better than in 1962. Production of summer-harvested grain crops, which account for about one-fourth of total grain, was less than last year's poor harvest. The outlook for intermediate and late rice is only fair, and the output of miscellaneous grains probably will not offset early grain losses. Output from an expanded acreage of industrial crops, especially cotton, should exceed that of last year. Weather extremes have adversely affected virtually all agricultural areas during the 1963 growing season.

Per capita food availability is expected to change little from last year, despite stepped-up efforts in government procurement programs. Increased imports of grain in 1963--expected to exceed 6 million tons, compared with 4.7 million and 5.6 million respectively in 1962 and 1961--will ease but not relieve the continued tight food situation.

Under the Communist regime, the stream of Mainland China's history, like its rivers, has been muddied by torrents of convulsive change. The Great Leap Forward, enmeshed in the Second 5-Year Plan, backfired economically, politically and socially. The emerging, more conservative long-range approach to economic and social problems will necessarily extend beyond the scope of the Third 5-Year Plan. Modernization (mechanization) of agriculture currently has precedence over socialization; scientific experimentation has been joined to the old cliches of class struggle and production struggle to form the "Three Revolutionary Movements," presently emerging as the "New Line" in the Communist regime's approach to agricultural problems.

Despite this new approach, the fountainhead of China's problem--the regime itself--is unchanged, and prospects for a solution are not now discernable. Favorable weather would help greatly in alleviating food shortages, but large imports of grain likely will continue. Rapid population growth further complicates the problem. Lacking a stable and substantial source of external aid, the program for agricultural recovery will be extended, thus causing a persistence of China's economic illness.

WEATHER CONDITIONS AND CROP PROSPECTS

The enthusiasm with which the Communist regime announced plans for bumper crops in 1963 has dampened considerably. With fall harvested crops essentially all planted and with summer maturing crops (mainly winter wheat and early rice) already harvested, the prospects for agricultural production in 1963 begin to emerge. Harvesting of summer grains (roughly one-fourth of the grain harvest) and probably some early maturing fall crops, has been completed. However, the total picture for agriculture in 1963 is difficult to assess at this time, since the major portion of output is still in the developing stage, and an arbitrary assumption of normal weather beyond the middle of September must be made despite weather extremes prior to that time.

Contrary to official claims, the results of the summer harvest do not augur well for the abundant harvest anticipated earlier in the year by the regime. A noticeable indicator has been the gradual decline in enthusiastic pronouncement of a bountiful harvest in the official press throughout the growing season. Officials have been preoccupied with local and regional problems of crop production, notably unusual weather conditions which have affected the country as a whole in different and unusual ways. Even areas with rather well-defined climatic patterns have fallen victim to the caprices of the weather. In areas with well-developed irrigation and drainage systems the effects of the weather have been less severe.

It is difficult to make a general analysis of the effects of weather conditions on various crops growing in the same general area and having different moisture requirements and tolerances. Also, harvesting and planting in large areas of the Mainland are carried on simultaneously throughout the growing season. The effect of

weather thus varies greatly even within an area, depending on the type of crop, making it almost impossible to generalize for Mainland China with its large land mass and its complex climatic patterns. The following analysis, therefore, conforms to general crop areas, which in many respects coincide with the seven major economic regions established by the Chinese. Local weather patterns generally correspond somewhat loosely with the economic regions, but weather patterns for the whole country vary radically. Even in a year of comparatively normal weather floods and droughts are common.

Weather

Since the fall of 1962 extremes in precipitation and temperature have altered the usual climatic patterns in many of China's agricultural areas. Severe cold spells occurred throughout much of the mainland in January 1963. Their effects were most noticeable in semi-tropical South China, in the winter-cropping area of Central China, and in the winter wheat belt of North China. Again in April 1963, unseasonal low temperatures occurred in about the same areas, with frost at higher altitudes and in the north.

Precipitation, mostly rainfall, has been abnormal throughout much of the agricultural area during the current crop year. Near-normal to above-normal rainfall occurred throughout the greater part of North China during the summer and autumn of 1962, and above-average soil moisture was available at the time of planting winter wheat. This rainfall pattern, however, did not include a large area northwest of an axis extending over the northern part of Shansi Province, the northwestern and northern parts of Hopeh Province (including the Peking area), that part of Inner Mongolia adjacent to Liaoning and Kirin Provinces, and as far west as the great bend in the Yellow River. Rainfall deficiency in this usual drought area is immediately harmful to both crops and grazing lands. Drought conditions persisted in this area until early in August 1963, when torrential rains occurred. Precipitation increased in intensity from north to south and resulted in extensive flooding and waterlogging of large cropland areas in southern Hopeh and parts of northern Honan Provinces. This rainfall was part of a larger weather system causing heavy rains in much of North and East China.

Except for Southwest China, sub-normal precipitation persisted throughout much of the agricultural section of the Mainland beginning in early December 1962 and extending into February 1963. This dry spell, which had little immediate effect, was broken in February by rains in the Yangtze Valley and snow in North China. An unusually dry condition developed throughout much of South China, following typhoon Wanda in September 1962. It persisted through most of the summer of 1963 and extended in varying degrees as far north as southern Hunan and southern Kiangsi Provinces. This dry spell was partially broken by heavy rains in July and August, but a moisture deficit in the area likely continues.

An unusual weather pattern developed during early-spring 1963 with far-reaching effects throughout portions of South, Central, East and the southern part of North China. This pattern was created by the early dissipation of the Siberian winter high pressure system over Central and North China that resulted in a more rapid northerly movement of warm moist air from the South China Seas. A large stationary system of moist air thus developed above the Yangtze Valley. Unusual frontal activity moving southeast from Mongolia caused even greater amounts of precipitation than usual over Central and East China. The unusually rapid movement northward of warm moist air (the early monsoon) shifted the early monsoonal activity from the southern coast of China, thus causing drought conditions in South China. Above-normal precipitation during some periods caused flooding and waterlogging in various areas of the Yangtze Valley all the way to the coast. This large system changed rapidly in August; rainfall became sub-normal, and by mid-September large areas in Central and East China were suffering from dry soil conditions.

Precipitation in Northeast China has been adequate over the southern and eastern part of the region, but below normal throughout much of the western part. Heavy rains in late July resulted in some flooding in Liaoning Province. Szechwan (in Southwest China), the leading grain province, has had near-normal weather throughout the growing season. The dry weather which persisted in Yunnan and Kweichow Provinces during the early spring was alleviated in mid-summer.

Summer Harvest

Summer harvested grain crops, representing about 25 percent of the total grains (excluding potatoes) ^{1/} and composed about equally of winter wheat and early rice, are considerably below average and somewhat smaller than the poor crop in 1962. Although the production of winter wheat probably exceeded that of last year, it was not sufficient to offset early rice losses, which are estimated to be significant. Severe but inestimable damage to winter vegetable crops, especially sweet potatoes in South China, occurred during the series of cold spells in January.

Early rice - Early rice, constituting about one-fourth of the total rice crop, is grown south of the 33rd parallel (roughly the northern boundary of the Yangtze basin), with production progressively increasing southward. The provinces of Kwangtung and southern Fukien are the most important producers. The crop, generally planted in February and March and harvested in June and July, was reduced appreciably by dry weather in 1963. It is also likely that quality was considerably reduced. Large areas in the southern extremity of the early rice area could not be planted because of dry paddy fields. Substantial areas were lost later from the lack of water as the drought continued. Dry weather in Kwangsi Province and in the southern portion of Hunan and Kiangsi Provinces probably reduced yields somewhat. Irrigated rice along the Pearl River apparently had adequate water.

Wet weather and cloudiness accompanied by cool weather farther north reportedly caused rotting of rice seedlings at transplanting time in April. Some flooding occurred in the Yangtze River area of Hupeh, northern Hunan, northern Kiangsi and in Anhwei Provinces. The unusual wet conditions in Central and East China were conducive to the spread of disease and insect pests, and major spraying campaigns were necessary. In drought-stricken South China torrential rains fell in several important early-rice areas during the harvest period. Total harvested area and yield of early rice appear to be less than last year, despite reports of increased acreage in some early-rice areas.

^{1/} Irish potatoes and sweet potatoes, which constitute the bulk of potato production on Mainland China, are included in Chinese grain statistics on a grain-equivalent ratio of 4 pounds of potatoes to 1 pound of rice.

Winter Wheat - Winter wheat, which accounts for almost 90 percent of the wheat grown in Mainland China, is produced mainly in the great plains area of North China. The southern boundary of production extends as far south as the central part of Hunan and Kiangsi Provinces and as far west as central Szechwan and the western boundry of Shansi Province. Shantung and Honan Provinces are the largest producers. Conditions for winter wheat were mostly favorable. Ideal weather and moisture conditions prevailed during fall planting, which took place in September and October 1962. Germination was good, and stands were well established by the onset of cold weather in January 1963. Winter kill probably was no worse than average. Despite claims last fall of a larger acreage, the total area of winter wheat was reduced for the second straight year. This reduction apparently was to accommodate an increase in the acreage of cotton (and possible of rice) south of the Yangtze River. Cold weather in April and prolonged rain in June and July had only minor effects on the crop. The drought area north and northwest of Peking appeared to have little effect on the total crop because only a small amount of winter wheat is grown in that area. Flooding and wet ground in the Yangtze basin reduced yields somewhat in East and Central China, but yields for the entire country appear slightly larger than last year. Insect damage and disease, particularly rust, in areas where dampness was prolonged apparently were not serious. Production in 1963 has been variously estimated as slightly larger than in 1962.

Other Crops - Miscellaneous crops include winter barley, broad beans, field peas, rapeseed, and green manure crops; many are grown on paddy and cotton land during the winter in the Yangtze basin. They were affected by the cold wave in January and some barley and rapeseed probably winter killed; but losses due to winter kill and heavy rains later in the spring likely did not significantly exceed those of an average year. According to local press reports, substantial frost damage occurred in the important sweet potato area of Kwangtung, southern Fukien, and southern Kiangsi Provinces (the major winter sweet potato areas). Probable losses, not announced, caused shortages of badly needed foodstuffs during the winter and reduced the fodder supply for pigs. Early vegetables and other crops grown on private plots probably fared better than

those under collective supervision. Stocks of vegetables, poultry and poultry products, pork, and fruits--of which many are produced on private plots--continued to increase in city markets.

Intermediate Rice

Harvesting of food crops continues in mainland China from the harvest of early rice and winter wheat until well into the winter months. Intermediate rice, concentrated mainly in the Yangtze basin and in adjacent areas of Szechwan, Yunnan, and Kwangsi Provinces, fits in between the harvest of early and late rice. It is the largest rice crop on the Mainland, accounting for roughly 40 percent of total rice production.

As in 1962, an attempt was made this year to increase the area of intermediate rice. Apparently there was some transfer of winter wheat acreage and other cropland in the early-rice area, which was not utilized earlier in the year because of drought conditions. The net result of this shift cannot be immediately determined, because in some areas in East China (particularly Anhwei Province) flooding and waterlogging interrupted and may have prevented transplanting. Also, cool temperatures and cloudy skies in April caused rotting in some seed beds. Because of these extreme weather conditions, the expected increase in acreage may not have been realized. A wet season, however, is customarily thought to be better than a dry one in the Yangtze basin. Increased yields thus may compensate for some areas not planted. The intermediate rice crop may, therefore, equal or slightly exceed the 1962 crop.

Fall Harvested Crops

Because of the poor harvest of summer crops in 1963, efforts were made to increase acreage of late-maturing food crops, particularly intermediate and late rice. The degree of success is not known. However, planting of much of the late rice crop, like that of the intermediate crop, was delayed, but for other reasons. A large portion of the late rice crop is grown in South China, which did not recover from the severe spring drought until well into the late rice planting season. Heavy sporadic rains from tropical storms have relieved the drought conditions, but the severity of these storms may prove harmful to the current crop. For delayed crops, there is also the danger of

damage by cold weather. Weather conditions to date do not favor a late rice crop as large as in 1962. The prospects, therefore, of recouping losses of the early rice crop are not favorable, and the total crop may not equal that in 1962.

Other food crops include miscellaneous grains (corn, millet, kaoliang, barley, etc), spring wheat, Irish potatoes and sweet potatoes.^{2/} These crops are the largest unknown quantity in Mainland China's food basket. Some annual fluctuations in acreage occur, but aggregate production remains fairly constant--probably a function of estimation. Little change apparently has occurred in total acreage of these crops.

Acreage of spring wheat may be down somewhat because of dry ground in the western areas at planting time. However, favorable weather in the eastern growing areas, particularly in Heilungkiang Province, may result in slightly higher yields. Weather generally favored the early growth of miscellaneous grains, except in dry areas north and west of Peking; however, torrential rains during early August over a large area of North China--extending from Liaoning south into Honan and Kiangsu Provinces--may have caused sufficient loss to require lowering a previous optimistic estimate for miscellaneous grains. Furthermore, the developing dry conditions in Central and East China in August may adversely affect late-maturing grain crops. The areas affected are the heartland of the summer-grown grains. It is too early yet to assess the extent of rain and flood damage and the effect of the developing dry conditions. Unless these effects are substantial, these crops together with Irish potatoes and sweet potatoes likely will exceed those in 1962. This may be sufficient to increase total production classified as grain to the 1962 level or slightly exceed it. This estimate assumes favorable weather throughout the remainder of the growing season.

The category of so-called industrial crops has received special emphasis by the Communist regime this year. The area of winter rapeseed apparently was slightly expanded, and relatively favorable weather reflects a better crop. The acreage of soybeans, which, during past years,

^{2/} See footnote, page 5.

probably was less than previously estimated, is believed to be slightly larger than in 1962. Weather conditions probably favored higher yields in some areas. Peanut acreage may be down somewhat, but yields should be up slightly. No information is available on shifts of acreages of sugar beets and sugar cane; however, acreage likely is being expanded after declining the past few years. Weather probably favored sugar beets in Northeast (Manchuria) China, but the drought in South China adversely affected sugar cane. On the other hand, favorable weather in Szechwan Province, an important sugar cane area, may have increased production somewhat. Tobacco production is expected to be up slightly in 1963, because of increased acreage and generally favorable weather.

Mainland China's most important industrial crop is cotton. This crop received considerable attention during the 1963 crop year. Much of this attention appears to have been dissipated because of periods of unfavorable weather. Excessive rainfall during April and May in many parts of the producing area resulted in a low percentage of germination because of seed rot. Weeds and insects caused some damage. Heavy rains and flooding in parts of the cotton area in early August likely further affected yields and may have destroyed some of the crop. Although yields may be no better than in 1962, cotton production is expected to increase in 1963 because of a substantial increase in acreage, probably as much as 20 percent.

FOOD AVAILABILITY

Domestic Production

Agricultural production in Mainland China has failed to keep pace with population growth since 1958. Stocks of foodstuffs which may have accumulated by 1959 were quickly exhausted. In 1961, Communist China became a net importer of agricultural products, particularly grain. To prevent a collapse of the deteriorating food situation, peasants were allotted private plots and were encouraged to plant food crops and raise livestock. This action by the government and a moderately successful agricultural year in 1962 provided a small but significant increase in the production of food for consumption.

Although a critical food situation in early 1961 eased somewhat following the 1961 summer harvest, no perceptible change in rationing occurred until signs of a better harvest became apparent in 1962. Production of subsidiary foods (vegetables, poultry and pork) from private plots and the reopening of the so-called free market eased an almost desperate food situation. An increase in the grain ration occurred during the second half of 1962. A larger increase was made in rural areas to bring food availabilities more in line with those in urban areas. Also, government procurement lagged somewhat behind production. This, however, probably was an intentional move by the government to facilitate adjustments in the countryside.

Government Procurement

In line with the optimistic outlook by the Communist regime in early 1963, actions were taken to assure larger government stocks of agricultural products. Production contracts reappeared for the first time since 1958, larger numbers of cadres were dispatched to rural areas to join in the farmwork, and tighter regulations were imposed on free-market operations. These controls have resulted in an increase in government procurement of agricultural products in 1963. In light of the estimated production of the agricultural sector, however, probably the most that can be hoped for is more efficient distribution of an inadequate supply of food. Unless there is an increase of at least 4 million to 5 million tons of grain in 1963, per capita availability of grain will be no higher than in 1962. Grain is the source of over 80 percent of the per capita caloric intake. To increase per capita grain consumption this year to the 1957 level would require an increase of over 13 percent, or about 25 million tons of grain more than the estimated production in 1962. Such an increase is not possible in 1963.

Imports

Part of the existing food deficit will be made up by current imports of grains (mostly wheat) from the free world. Purchases of grain for delivery in 1963 amount to over 6 million tons, most of which already has been delivered. Imports in 1963 will total substantially above the 4.7 million tons imported from free world countries in 1962 and the 5.6 million in 1961 following the critically

small amount of food produced in 1960. With no better prospect for food production than now appears possible, the peasant will have little choice but to renew efforts to produce more on his private plot. The regime refers to private plots as a "spontaneous tendency toward capitalism." This is a deviation the regime is determined to wipe out, but against which it has not yet acted directly. Instead it has made a more subtle approach through ideological orientation and various unattractive incentive programs--an approach that has had the effect of less peasant freedom in the free market.

RETROSPECT AND PROSPECT

Results of Second 5-Year Plan

The mood of optimism, confidence, and self-congratulation with which the Chinese Communist Party entered the Second 5-Year Plan was in marked contrast to its wiser and more conservative approach in the Third 5-Year Plan. The Great Leap Forward in 1958 adopted a radical economic course that ignored sound principles of economic development. The results were agonizingly disappointing. The intensive and ruthless drive to socialize agriculture and dominate production through central planning upset the balance of one of the most intricate traditional farming communities that ever existed. A siege of unfavorable and unseasonal weather, beginning in 1959 and extending through 1961, added to the general chaotic economic conditions.

The best the Communist regime could salvage during the plan period (1958-62) was a slight improvement in agriculture in 1962. This resulted in a small increase in food production compared with the 3 preceeding years, but was substantially below the good crop year of 1958. Except for some aspects of the Second 5-Year Plan having long-term implications, the plan failed, especially concerning the immediate welfare of the population. Crop production was no better in 1962 than in 1957. Certain sectors of agriculture, especially livestock, appear to have fared even worse. Per capita food production was considerably less because of the substantial increase in population. The large amount of foodstuffs, particularly wheat, that continued to be imported since the small crop in 1960 had depleted hard-to-get foreign exchange, but had not provided even a comparable level of food intake. The plight of agriculture was more or less representative of the entire economy.

Foreign trade was disrupted. Mainland China, which previously had been a net exporter of agricultural products under the Communist regime, became a net importer, particularly of grains, in 1961. Indications point to a continuation of grain imports for some years to come. Agriculture, which had been counted on so heavily as the source for capital accumulation to finance the industrialization program, suddenly had to be supported both economically and politically to prevent a complete collapse.

Third 5-Year Plan

The results of the tenth Plenary Session of the eighth Party Central Committee in September 1962, following several postponements, gave officials little solace. In fact, the slogan adopted by the plenum, "Agriculture as the foundation of the national economy and industry as the leading factor," suggests a more realistic approach which emerged following the disastrous years of the Great Leap Forward. The plenum supposedly attempted to place agriculture on a sounder footing through a new plan, the Third 5-Year Plan (1963-67). The plenum was held in complete secrecy, and little of the official assessment of the economy can be pieced together. In most respects the economy at the beginning of 1963 was characterized by signs of a low-level stabilization. Peasant morale increased slightly following increased production in 1962, but it has dropped again with the intensification of the "class struggle" campaign, which has been activated throughout the rural areas.

Policy - By its actions at the plenum and by subsequent policy changes, there is strong evidence that the Communist regime has entered the Third 5-Year Plan period with a drastically modified policy of economic expansion compared with the first two 5-year plans. This more realistic approach to agricultural production through greater investment includes the modernization of agriculture as a more efficient and more rapid way to accumulate capital. Much of the capital investment in agriculture, however, will be modified by directing substantial investment into heavy industries, such as chemical, fertilizers, insecticides and agricultural machinery.

Mechanization vs. Socialization - The suddenness with which the regime was forced to act (dissolution of communes, modification in agricultural investment, etc) to

forestall further peasant discontent following the Great Leap upset the timetable for the socialization of agriculture. The official line at present is that agricultural mechanization will precede the full collectivization of agriculture. An article in the People's Daily of January 5, 1963, stated that, while collectivization is possible without tractors,

the collective economy can be further consolidated only when the techniques of agricultural production have been completely changed, and agricultural mechanization completed . . . Without agricultural mechanization, agricultural collectivization cannot be considered, much less further developed.

The regime, maneuvering within narrow limits of resources to prevent further inroads on their socialization program, may find it difficult to maintain such a position. The time span in the mechanization program mitigates against a static program of socialization. Mao Tse-tung stated in 1955 that it takes generally 4 or 5 Five-Year Plans (20-25 years) to fulfill basically the technical transformation of agriculture on a national basis. Ignoring this judgement in 1959, he promulgated a 10-year plan for the mechanization of agriculture. This plan apparently suffered the same fate as many of the other "great leap" adventures. Evidently the new plan dates from 1963. A further delay in collectivization hardly squares with Communist philosophy, particularly the Chinese brand, as demonstrated in the late 1950's.

The "New Line" - The effect of the new directive to cadres to work in agricultural production to implement the "Three Revolutionary Movements"--class struggle, production struggle, and scientific experimentation--is not yet apparent. Cadres are to work physically at all levels of production: production team, production brigade, peoples' commune, hsien (county), and special (administrative) districts. This directive, if effectively implemented, would insure closer governmental supervision and control of production than did the former collective systems. Obviously, the program is a tool to increase government procurement, a phase of government control being pushed by the regime this year. The Triple Revolution Movement appears to be the "new line" in Communist China. It may have long-term implications by conditioning peasants for tighter government controls later, but possibly with

only minor modifications of the present socialist organization in the agricultural sector. Some tightening of control can be expected in an effort to dissuade capitalistic tendencies inherent in the private plots. The inclusion of the scientific angle may be an attempt to induce intellectual youths to join the movement; they could add significantly to the development of science, which now seems to have regained some of the magic originally associated with the communes and the Great Leap Forward. Although the new approach is more practical in some respects, it probably will suffer like other great movements in the past from a lack of organization and planning, and may thus prove wasteful. Party emphasis on increasing the class struggle, although restated, seems to be somewhat moderated compared with earlier directives.

Future Prospects

Short term - For agriculture, 1963 appears to be no better than a year of recuperation. The level of the economy, which depends on agriculture for about half its GNP, likely is not much higher than it was in 1957. But population has increased probably as much as 40 million to 60 million. Except for some expansion in a few selected areas--machine production, chemical fertilizer, tools, and other industries now supporting agriculture--industry cannot expand as rapidly as desired when the main emphasis remains on agriculture. This seems a likely prospect for the immediate future, since little if any capital can be skimmed from agricultural output during the current year. Although foreign credits may stimulate a slightly higher level of foreign trade, the current--and likely continued--drain of foreign exchange for grain imports combined with a general lack of exportable surpluses and raw materials for industry are likely to curtail essential imports and continue to depress economic recovery.

During the past 2 years the peasants have demonstrated that, even with present technical inadequacies, the right kind of stimuli (private plots and increased fertilizer) can bring an immediate response in agricultural output. The fertilizer problem will not be solved soon. The aggregate amount of chemical fertilizer from both domestic production and imports may be as much as 4.3 million tons in 1963 (2.6 million from domestic production and about 1.7 million through import). This is a significant increase from the past 2 years. Nevertheless, the Communist regime

is having difficulty with its program for a rapid increase in domestic production. Despite the urgent need, technical difficulties are hampering a rapid increase in production capacity. Hsiao Kuei-Chiang, Vice Minister of Chemical Industry, implied in January 1963 that 8 million tons of chemical fertilizer per year by the end of 10 years (presumably by 1972) may be all that can be produced annually. This is roughly one-fourth of the estimated annual minimum requirements for China's entire agriculture.

Long term - Although little is known of the Third 5-Year Plan, implicit in the few announcements and guiding principles that have emerged is a conservative orientation in the Communist regime's policies. During the current 5-year plan, economic gains will hinge primarily on the results obtained from agriculture and related industries. Past performances, even with a full labor force, bear mute evidence that the land expansion programs and other labor-intensive projects have not been successful. Land reclamation requires capital and equipment that are not now sufficiently plentiful on the Mainland. The same can be said for the water conservancy, mechanization, and fertilizer projects. The Mainland also lacks the vast reservoir of technical skills required to design and direct such programs.

Other technical advances (including soil and seed improvement, better management, plant protection, improved farm tools, and better cultural practices) may be relatively inexpensive and might be used as alternatives if mechanization proves impractical or prohibitive because of cost. Even so, these advances would require a certain level of sophistication and years of development.

The major question is whether the Communist regime can find enough capital to accomplish the modernization of agriculture and finance presently undeveloped support industries. Even if capital were available during the plan period, it is doubtful that the rate of growth in agriculture could exceed the population increase unless, of course, drastic measures were taken to control population. Controls in the past have not been effective.

The present economic situation and production prospects, based on the experience of the past Second 5-Year Plan, still leave mainland China's agriculture vulnerable to the vicissitudes of the weather, limit nutritional advancement, and probably allow no more than a marginal rate of accumulation from the agricultural sector. Without a stable and substantial source of external aid, the program for agricultural recovery appears to extend far beyond the period of the current 5-year plan.

